



Australian Bureau of Statistics

6102.0 - Labour Statistics: Concepts, Sources and Methods, 2001

ARCHIVED ISSUE Released at 11:30 AM (CANBERRA TIME) 18/05/2001 Ceased

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INTRODUCTION

29.1 The Survey of Employment and Earnings has been conducted on a quarterly basis since 1983. The purpose of the survey is to measure both the number of wage and salary earners employed each month and their gross quarterly earnings. Data are used in developing and reviewing wages and labour market policies, and in the Australian National Accounts in estimates of compensation of employees and of labour productivity.

SURVEY OUTPUT

29.2 Estimates from the survey are published quarterly in **Wage and Salary Earners, Australia** (Cat. no. 6248.0). More detailed data are available on request.

29.3 The population of interest is civilian employee jobs, for which payments were made in the survey reference period, excluding employee jobs based outside Australia. Two main series are published:

- wage and salary earners; and
- gross earnings for wage and salary earners.

29.4 Data published from the first series (wage and salary earners) are available on the following bases: original; seasonally adjusted; and trend. Original estimates only are available for the gross earnings series.

29.5 Data can be cross-classified by: State and Territory; sector (public/private); industry (ANZSIC 2 digit level subject to confidentiality constraints); level of government; public institutional sector; and employer size (available for the private sector only). The wage and salary earners series can also be classified by full-time or part-time status (available by mid-month of the quarter only). The following earnings components within the gross earnings series are available on request: gross wages and salaries; fees paid to directors and office holders; and severance, termination and redundancy payments.

29.6 Data collected within the survey are compiled according to the concepts and definitions outlined in Chapter 11. Earnings estimates from the Survey of Employment and Earnings are broader than, and thus not directly comparable with, earnings estimates from the Survey of Average Weekly Earnings (AWE), and the Employee Earnings and Hours Survey (EEH). Earnings in the Survey of Employment and Earnings comprise earnings as defined in AWE and EEH plus a number of irregular remuneration components that are excluded from AWE and EEH (e.g. retrospective pay, pay in advance, and irregular bonuses and gratuities).

SCOPE

29.7 Public sector employing businesses (MUSs) operating in the Agriculture, Forestry and Fishing industry (ANZSIC Division A) are included in the scope of this survey. Otherwise, the standard scope exclusions for ABS labour-related business surveys (outlined in Chapter 23) also apply to this survey. However, it should be noted that the ABS is currently reviewing the scope of the survey, with the intention of reducing the scope to public sector employing businesses only.

SURVEY METHODOLOGY

29.8 Details of the monthly numbers of employee jobs and quarterly earnings are obtained on a quarterly basis from selected businesses using a mail-out/mail-back collection methodology. Data for some Commonwealth and Territory Government organisations are collected electronically on a fortnightly basis from a centralised pay system. A small number of large private businesses also provide data electronically.

29.9 The survey reference period is all pay periods that end within the quarter. Earnings estimates may, therefore, be affected by variation in the number of pay periods from quarter to quarter. Number of employee jobs is collected for each month of the quarter. In the mid month of the quarter the number of full-time and part-time employee jobs is also collected.

29.10 Businesses which do not mail back their completed questionnaire within a reasonable period of time after the survey reference period are followed up by mail and then phone if necessary. Priority intensive follow up was introduced in 1998. This method calculates a score for all non-responding units based on how well it is expected the imputation method would estimate the unit. Only non-responding units with a score greater than a set cut-off are intensively followed up. Response rates for the Survey of Employment and Earnings for the 1998-99 financial year averaged 98%.

SAMPLE DESIGN

29.11 The selection unit for the survey is Management Unit/State (MUS). The collection and reporting units used in the survey usually correspond to the selection unit. However, where the MUS is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to Chapter 23.

29.12 A probability sample of MUSs (employing businesses) is drawn from the ABS Business Register using the process outlined in Chapter 23. Variables used to stratify the survey frame are:

- State or Territory;
- sector - the public and private sectors are stratified separately;
- industry - industry stratification is based on ANZSIC division; and
- employment size - the ranges used vary between States and Territories, sectors and industries.

29.13 Strata on the survey frame that are completely enumerated include those containing MUSs with benchmark employment greater than a set cutoff (this cutoff will vary for different

States/Territories) and strata with a very small number of MUSs. Strata which are completely enumerated because they contain a low number of MUSs may become sampled strata if the number of MUSs in those strata increases sufficiently.

29.14 In addition to constraints outlined in Chapter 23, sample selection is constrained by the need to ensure that there is minimum overlap with other labour-related business surveys.

SAMPLE SIZE AND ALLOCATION

29.15 Approximately 11,800 MUSs are selected in the sample to yield a live sample of approximately 9,500 MUSs.

29.16 The sample is allocated optimally across sampled strata using a technique designed to minimise the variance of total mid month employment at both the national and State/Territory level.

SAMPLE ROTATION

29.17 The ABS reselects the sample for the survey each quarter, with approximately 8% of the sample from non-completely enumerated strata replaced each quarter.

29.18 Sample rotation is implemented for the majority of sampled strata with businesses with 50 employees or less. Sample rotation is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

ESTIMATION

29.19 Ratio estimation is used in all strata, except in cases where there is a large proportion of units with zero benchmark employment, in which case number-raised estimation is used.

29.20 Beta imputation is used in both the completely enumerated and sampled strata, provided that data have been reported in either of the two previous quarters. Otherwise, the Live Respondent Mean method is used to impute for missing data items.

29.21 Significance editing was introduced in September 1999. This technique means that editing is only performed on those survey values which will significantly impact on the survey estimate if left unaltered.

29.22 Survey outliers are dealt with using the 'surprise outlier' technique.

29.23 New Business Provisions were introduced in November 1999. Adjustments are made to survey estimates each quarter to account for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on a survey frame.

29.24 For further information on estimation methods used in ABS Business Surveys, refer to Chapter 23.

TIME SERIES ESTIMATES

29.25 Both seasonally adjusted and trend estimates are produced for key series from this survey.

Seasonal adjustment

29.26 Seasonally adjusted estimates were introduced in March quarter 1989. The seasonal factors are reviewed annually to take account of each additional year's original data. The review takes place in time for the results to be incorporated in each March quarter issue of **Wage and Salary Earners, Australia** (Cat. no. 6248.0).

Trend estimates

29.27 Trend estimates were introduced in June 1993.

RELIABILITY OF THE ESTIMATES

29.28 Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are published in **Wage and Salary Earners, Australia** (Cat. no. 6248.0).

29.29 The 'jack-knife' approach is used to calculate estimates of variance for this survey.

DATA COMPARABILITY OVER TIME

29.30 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and time series analysis methods are made as infrequently as possible. Significant changes have included:

1983 Survey of Employment and Earnings commenced. Public sector completely enumerated.

1988 Size of private sector sample reduced. Sampling introduced for public sector.

1989 Seasonally adjusted estimates introduced.

1992 First data collected electronically. Sample size reduced.

1993 Private sector sample size reduced. Trend estimates introduced.

1995 Number of strata using number-raised estimation increased. Number of rotating strata reduced, and rotation increased from 5% to 8.33%.
Publication suspended after March quarter, but collection continued.

1996 Industry classification changed to ANZSIC; survey estimates revised back to September quarter 1983.

1997 Publication resumed with March quarter, with data published backdating to June quarter 1995. Survey redesigned on an ANZSIC industry basis. Switch to full enumeration of public sector industries with small populations in the Northern Territory and the Australian Capital Territory. Public sector sample size reduced. New business provisions adjustment introduced and backcast to beginning of the series.

1998 Live Respondent Mean imputation introduced for the sampled sector. Introduction of priority Intensive follow-up and changes to estimation procedures.

1999 Beta imputation introduced; introduction of significance editing.

FURTHER INFORMATION

29.31 For further details contact the Assistant Director, Labour Employer Surveys Section, on Perth (08) 9360 5245.

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This page last updated 9 February 2006

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